

A NOTE ON THE CARENIDES, WITH DESCRIPTIONS OF NEW SPECIES.

BY THOMAS G. SLOANE.

The CARENIDES form a very natural group of the Adephagous sub-family Scaritidæ, in which are included all the wingless Australian Scaritidæ. This group has been made the subject of investigation by Professor Westwood, Count Castelnau, Baron de Chaudoir, the Hon. William Macleay, and the Rev. Thomas Blackburn.

In 1887, Mr. Macleay published a revision of the CARENIDES in Proc. Linn. Soc. N.S.W. (2), Vol. II., when he brought the history of the group down to date, and described sixteen new species. Since then Mr. Macleay has added two new species from the Dawson River, Queensland,* and three new species from the Kimberley district of West Australia: † and the Rev. T. Blackburn has contributed two notes on this group to the Royal Society of South Australia, in one of which ‡ he describes six new species; in the other § he forms the new genus *Epilectus* (described originally as *Eurygnathus* but altered to *Epilectus*, 4th October, 1887).

In the present paper I describe thirteen species as new, and suggest three new sub-generic names, viz., *Neoscaphus*, *Paliscaphus*, and *Chariscapterus*.

In the synoptical table, which I give below, I have used several new features for the purposes of classification. All these characters I believe to be constant, and hope the table, imperfect though it be, will prove useful to the student. The terms "apical plate," for

* Proc. Linn. Soc. N.S.W. (2), Vol. II. p. 972.

† Proc. Linn. Soc. N.S.W. (2), Vol. III. p. 460.

‡ Trans. Roy. Soc. S. Australia, 1887, Vol. X.

§ Trans. Roy. Soc. S. Australia, 1887, Vol. X.

the flattened space towards the apex of the lower side of the anterior tibiæ; "inferior ridge," for the spinous ridge of the lower side of the anterior tibiæ; and "exterior ridge," for the denticulated portion of the outer edge of the anterior tibiæ above the large external teeth, have been proposed by the Rev. T. Blackburn, who contributes a study of the anterior tibiæ of the genus *Carenum* in Trans. Roy. Soc. S.A. Vol. X. (1887), p. 53. He attributes considerable value to the apical plate and inferior ridge from a classificatory point of view, but the exterior ridge he regards merely as useful in describing a species. In these conclusions he is undoubtedly right; the apical plate and inferior ridge differ considerably in species that belong to genera not closely related, but I am unable to indicate exactly these differences. In *Carenum* (using the term in a wide sense) the inferior ridge is a good way to determine the affinity of the various divisions—thus in *Calliscapterus* and its allies the inferior ridge reaches to the tarsus, in *Carenum* it extends hardly so far, reaching only to between the two large external teeth, while in *Carenidium*, &c., it is altogether weaker; these three forms shade into one another through the numerous sub-genera. I have found these terms useful, and shall adopt them in the following descriptions. The end of the apical plate often ends in a spur or tooth, which extends sharply downwards below the tarsus; this tooth I regard as a valuable character for classification.

I have made use of various punctures as aids in arranging the genera and species; these are—(1) the punctures above the eyes, or supra-orbital punctures, (2) those of the margins of the prothorax, and (3) that near the apex of the anterior femora on the lower and inner side. The first two of these features are recognised as of value in arranging the Carabidæ, but, as far as I know, the inner apical femoral puncture has not been used before. I find its presence invariable in that branch of the CARENIDES in which I have used it; while it is also present in all the species

of the tridentate *Carenums* I have examined, though in all the species of *Carenidium*, *Conopterum*, and *Neoscaphus* that I have seen, it has been wanting.

In addition to the characters mentioned above, the following may be mentioned as variable, and of assistance in classification: the antennæ—their general form, the shape of the apical joint, and the relative proportions of the second and third joints; the mentum—both the lobes and the median tooth; the form of the thorax and of the elytra; the legs—the shape of the anterior femora, as well as the length and general appearance of the legs.

I believe the *CARENIDES* may be divided into several main divisions, of which the three most important are *Scaraphites*, *Euryscaphus*, and *Carenum*—regarding as sub-genera of *Carenum* all those names in *italics* in the following list. Of the unidentate genera *Monocentrum* and *Teratidium* I cannot speak definitely, not knowing them.

The arrangement of the genus *Carenum*, proposed by Mr. Macleay (Trans. Ent. Soc. N.S.W. Vol. I. pp. 55 and 146), has been of great use to me; and for the typical *Carenums* all his divisions are admirable. The following synopsis is merely a tabular list of genera in which only those characters which are necessary to divide the different genera and sub-genera have been used:—

Table of the genera and sub-genera of the group *CARENIDES*.

I. Palpi filiform, last joint not triangular. The second external tooth of the anterior tibiæ nearer the apex than where the inner apical spine rises. Intermediate tibiæ dilatate at apex, with strong bent and obtuse apical spur.

Scaraphites.

II. Palpi with last joint triangular or securiform. The second external tooth of the anterior tibiæ further from the apex than where the inner apical spine rises. Intermediate tibiæ not dilatate at apex.

- A. Elytra circular, or sub-circular, almost or quite as long as wide, with flattened space behind the humeral angles, usually emarginate at base. Anterior tibiæ bidentate externally. Euryscaphus.
- B. Elytra ovate, at least a quarter longer than wide, without flattened space behind humeral angles. Anterior tibiæ bi- or tridentate externally. Carenum.
- a. Anterior tibiæ tridentate externally.
- b. Two supra-orbital punctures.
- Elytra costate near lateral margins.....*Philoscaphus.*
- Elytra foveate.....*Laccopterum.*
- Elytra smooth, bipunctate towards apex.....*Calliscapterus.*
- bb. One supra-orbital puncture.
- Prothorax convex, posterior angles rounded, sinuate behind.....*Chariscapterus.*
- Prothorax rather flat, posterior angles square, truncate behind.....*Platythorax.*
- aa. Anterior tibiæ bidentate.
- c. Anterior femora with a puncture below and near the apex on inner side.
- d. Frontal sulci sub-parallel, or only slightly divergent behind.
- e. Clypeus truncate between the lateral teeth.....*Carenum.*
- dd. Frontal sulci linear, diverging continuously behind.
- ee. Clypeus with slight median excavation.
- f. Antennæ sub-moniliform, incrassate towards apex.
- Basal punctures in single row.....*Carenoscaphus.*
- Basal punctures placed irregularly near humeral angle.....*Eutoma.*

Carenum scaritioides, Westw., and its congeners by their large head, with the frontal sulci diverging widely behind. I do not see how these latter can be placed in a different sub-genus to *Carenum Bonelli*, Brulle.

3. *Epilectus*. This seems a very distinct genus, which will probably prove of equal value with *Scaraphites*, *Euryscaphus*, and *Carenum*. I believe *Neocarenum Mastersi*, Macl., will come into this genus. I have lately seen in the Melbourne Museum a species which I attribute to this genus. It was taken by Mr. Kershaw in the north-west of Victoria.

SCARAPHITES INSULANUS, sp.nov.

Niger, subnitidus; *capite* transverso-quadrato, supra oculos unipunctato, fronte bifoveolata; *prothorace* subcordato, laevi, postice utrinque obliquo, basi leviter emarginato, canaliculato; *elytris* subconvexis, nonnihil obovatis, striis quinque singulatim leviter impressis, serie sublaterali distantium punctorum notatis, marginibus humeros versus confertim punctatis; *tibiis anticis* extus tridentatis, *intermediis* apice dilatatis, extus valde dentatis.

Long. 22 mm., lat. $12\frac{1}{2}$.

Black, rather dull. Head broad (6×10)* and rectangular, the frontal foveæ rugose, likewise the mandibles, a single puncture above each eye. Prothorax transverse (7×11), wider than the head, widest in front, the sides straight and a little narrowed to the posterior angles which are rounded, behind sloping obliquely on each side to the base which is lightly emarginate, the disc smooth, the median line lightly impressed, ending both in front and behind in a faint transverse line. Elytra rather obovate ($16 \times 12\frac{1}{2}$), the lateral margins wider in front, thickened and strongly turned inwards at the humeral angles; along the anterior half of the margins a closely placed row of ocellated punctures; on each elytron five lightly impressed punctulate striae, and on the

*In this and the following descriptions the length measured in the middle, and the breadth measured at the widest part of the head, thorax and body, are indicated by figures (millimetres) in brackets.

space between the fifth stria and the margin, near the margin, a row of five or six punctures at wide intervals; near the apex a few other punctures; the elytra have a dull appearance owing to numerous minute scratches on their surface. The anterior tibiæ are tridentate externally.

This species comes near *S. rotundipennis*, from which the prothorax emarginate at the base, the broader and less striate elytra, and its generally wider and flatter shape will help to distinguish it.

Loc.—King's Island, Bass' Strait (taken by Mr. C. French, jun., during the visit of the Field Naturalists' Club of Victoria to the island last summer).

SCARAPHITES PACIFICUS, sp.nov.

Niger, nitidus, lævis; *capite* sub-quadrato, supra oculos unipunctato, fronte bifoveolata; *prothorace* late transverso, vix cordato, basi truncato, lateribus marginatis, basi laud marginato, canaliculato; *elytris* sub-depressis, obovatis, antice truncatis, humeris laud notatis, striis sex punctulatis singulatim impressis, serie sublaterali distantium punctorum notatis, marginibus humeros versus punctatis; *tibiis anticis* valide tridentatis, intermediis apice dilatatis et extus dente curvato obtuse armatis.

Long. 34 mm., lat. 15.

Of a shining, pitchy-black. Head sub-quadrate (6×9), smooth except the frontal foveæ, these less wrinkled than is usual in the genus, one supra-orbital puncture on each side. Prothorax smooth, very transverse (7×12), widely but very slightly emarginate in front; the sides parallel in the middle, rounded off near the anterior angles and at the posterior angles, sloping obliquely on each side behind to the base, which is truncate; a reflexed margin on the sides but entirely wanting on the base; the median line distinctly, though lightly marked, not reaching either the anterior or posterior margin; a light oblique line on each side of the anterior angles. Elytra rather flat, obovate ($17\frac{1}{2} \times 15$); the base narrower than the thorax; each elytron with six light punctulate striæ; the base truncate, with the

angles rounded; the lateral margins reflexed, without any thickening at the humeral angles; a lateral row of punctures along the anterior half of the margins, and a sub-lateral row of a few widely placed punctures on each side. Anterior tibiæ with three strong teeth externally; intermediate dilatate towards the apex, with a compressed obtuse curved tooth externally.

Loc.—Eucla, West Australia.

EURYSCAPHUS ARENARIUS, sp. nov.

Niger, nitidissimus; *capite* subquadrato, supra oculos unipunctato, sulcis profunde impressis, antice fortiter divergentibus, postice leviter incurvis et obsolete conjunctis; *prothorace* transverso, marginato, canaliculato, postice rotundato, lateribus paulum rotundatis, angulis anticis leviter productis, marginibus reflexis, duobus punctis marginalibus utrinque impressis; *elytris* lævigatis, convexis, subcircularibus, antice leviter emarginatis, humeris notatis, reflexe marginatis; *tibiis anticis* bidentatis, intemediis ad apicem extus breviter dentatis.

Long. 29 mm., lat. 12 mm.

Of a shining black. Head subquadrate, (5×8), with one supra-orbital puncture on each side; frontal sulci curved inwards behind. Prothorax transverse ($6\frac{1}{2} \times 11$), shortly rounded and somewhat sinuate behind; the base lobate; the sides slightly rounded; the margins much reflexed, particularly at the posterior angles; the median line distinctly marked, crossed throughout its length by fine transverse striolæ; behind there is the usual transverse line defining the basal portion; in front there is a transverse impression near each anterior angle. Elytra convex, nearly circular (13×13); the base widely emarginate; the lateral margins somewhat flattened, with the edge reflexed, especially at the humeral angles; a row of punctures along the lateral margins, and on the base of each elytron a few punctures in a single row; the suture distinctly marked. The anterior tibiæ bidentate; the exterior ridge with five projections, of which the two lowest are teeth visible from above.

Loc.—Mulwala, Murray River, N.S.W.

I believe this to be the species which Count Castelnau regarded as *Scaraphites lucidus*, Chaud. ; but it does not agree with the description of *S. lucidus*. It is not uncommon on the sandhills near Mulwala. The description above is taken from a rather large specimen. In size it varies, my specimens ranging from 22 mm. to 30 mm. in length. Usually the elytra are quite smooth, but an occasional specimen has traces of elytral striæ. It probably has a wide range, for recently I took a specimen at Coonabarabran, N.S.W., which I cannot separate from this species, the only noticeable difference being its indistinctly striate elytra.

EURYSCAPHUS FEROX, sp.nov.

Niger, nitidus ; *capite* magno transverso, supra oculos bipunctato, sulcis frontalibus brevibus, antice fortiter divergentibus, postice linea curvata conjunctis ; *prothorace* transverso, marginato, leviter canaliculato, postice rotundato, lateribus paulum curvatis, angulis anticis vix productis, marginibus utrinque bipunctatis ; *elytris* convexis, sub-circularibus, basi leviter emarginato, humeris notatis reflexisque, confertim punctulatis, disco postice fortiter bipunctato ; *tibiis anticis* bidentatis, intermediis extus spina apicali valde armatis.

Long. 35 mm., lat. 16 mm.

Not of such a shining black as *E. arenarius*. Head transverse ($6\frac{1}{2} \times 11$), a little narrowed behind the eyes ; the frontal sulci short, connected behind by a transverse impression, in front turning sharply outwards ; the head wrinkled between the sulci and the eyes. There are two supra-orbital punctures. Prothorax transverse (8×14), almost truncate in front, rounded behind, with the sides slightly rounded ; a wide reflexed margin on the sides and behind becoming narrower on the base, thus causing the base to appear feebly lobate ; the anterior angles obtuse and hardly produced ; the median line lightly marked and crossed by transverse striole ; some longitudinal wrinkles along the anterior margin ; the basal portion of the thorax defined by a transverse impression. Elytra convex, longer than wide (18×16) ; the

margins reflexed at the humeral angles, where they are wider than behind; the sides rounded off to the shoulders, which are rather prominent; the base lightly excavated; the surface of the elytra covered closely with faint punctures (apparent without a lens); a large shallow puncture on the apical half of each elytron, nearer the suture than the margin; a row of punctures (seven) on the base of each elytron, and a row of punctures along the lateral margins; the suture lightly impressed. The anterior tibiæ bidentate, the exterior ridge with two distinct external teeth, above which are two small projections; intermediate tibiæ spinous, with a strong external tooth at the apex.

Loc.—Tintinallogy, Wilcannia, N.S.W. (Dr. H. A. Ellis).

This species appears to resemble *E. Tatei*, Blackburn, from which it seems to differ by its less lobate prothorax, and by the puncturation of the elytra. For the opportunity of describing this and the other specimens collected by Dr. Ellis, I have to thank Mr. A. Sidney Olliff.

CALLISCAPTERUS SPECIOSUS, sp.nov.

Splendide chalybeo-viridis; *capite* nigro, subquadrato, supra oculos bipunctato, sulcis frontalibus antice fortiter postice late divergentibus; *prothorace* late transverso, valde reflexo-marginato, antice truncato, angulis posticis lateribusque rotundatis, basi leviter lobato, disco canaliculato, antice transverse impresso, marginibus lateralibus utrinque tripunctatis; *elytris* sub-ovatis, subplanatis, antice angustioribus truncatis, marginatis, sutura fortiter impressa, postice bipunctatis; *tibiis anticis* tridentatis.

Long. 23 mm., lat. 8 mm.

Brilliant metallic green, with a bluish tint in some lights. Head, middle of prothorax and underparts black, the inflexed margins of the elytra green. In general appearance like *C. Odewahnii*, but with the elytra flatter, more rounded on the sides, and entirely of the one brilliant metallic colour. Head flat, subquadrate ($3\frac{3}{4} \times 5\frac{1}{2}$), with the frontal sulci widely diverging behind where a faint curved impression is noticeable behind them; two supra-

orbital punctures. Prothorax widely transverse (5×8); a trifle wider than the elytra; rounded on the sides, widest at about half its length, and narrower in front than at the posterior angles; lateral margins wide and reflexed; base lobate, the basal part defined by a transverse line, a distinct transverse line in front; the median line distinct, ending in front and behind in the transverse lines; an oblique impression near the lateral angles of the base; each lateral channel with three punctures. Elytra of a somewhat oval form ($7\frac{3}{4} \times 11$), the sides widest at the middle of the length, and narrowing equally towards base and apex; the base truncate and declivous; the lateral margins reflexed, wider towards the apex, at the humeral angles slightly thickened and erect; the suture rather deeply impressed; two discoidal punctures towards the apex. The anterior tibiæ tridentate as in *C. Odewahnii*.

Loc.—Gascoigne River, West Australia.

I am indebted to Mr. C. French of the Botanic Museum, Melbourne, for this handsome species.

CHARISCAPTERUS, subgen.nov.

Caput magnum, supra oculos unipunctatum; *frons* bisulcata, sulcis parallelis.

Palpi maxillares ordinarii, apice dilatati truncati; *labiales* securiformes.

Antennæ sub-moniliformes.

Prothorax valde transversus, late marginatus.

Elytra late marginata, postice bipunctata.

Tibiæ anticae valde tridentatæ; *femora antica* ad apicem intus punctata.

This subgenus will come between *Calliscapterus* (as represented by *C. campestris*, *C. Odewahnii*, &c.) and *Platythorax*. The anterior tibiæ are much more strongly tridentate than in *Calliscapterus campestris*, being very like those of *Platythorax*

interioris; the shape of the elytra also differs from that of *C. campestris* in not being narrowed at the base. In *C. campestris* and its allies there are three marginal punctures on each side of the prothorax, but in my single example of *Chariscapterus opulens* there appears to be but one marginal puncture on each side, viz., that at the posterior angle; this I believe not to be a constant character, the normal number will probably be found to be two on each side, at the anterior and posterior angles.

Carenum cupreo-marginatum, Blackburn, will come into this sub-genus, as will probably *C. porphyreum*, Bates, and possibly *C. brevisforme*, Bates.

CHARISCAPTERUS OPULENS, sp. nov.

Nitidus, lævis, elytris viridi-micantibus; capite magno, subquadrato, supra oculos unipunctato, ad clypeum haud punctigero, sulcis frontilibus parallelis, antice fortiter divergentibus; prothorace ad latera æneo, margine cupreo, late transverso, antice truncato, angulis anticis productis, postice sinuato, marginato, leviter canaliculato; elytris margine splendide cupreo, prothoraci latitudine æqualibus, late reflexo-marginatis, antice truncatis, sutura leviter impressa, postice bipunctatis; tibiis anticis tridentatis, infra tarsos apice dente longiusculo armato.

Long. 21 mm., lat. 7 mm.

Under parts, head, and disc of thorax black, elytra bright metallic green, thorax and elytra with vivid cupreous margin. Head large, square ($4\frac{1}{4} \times 5\frac{3}{4}$), smooth, with one supra-orbital puncture on each side; the frontal sulci parallel, in front turning sharply outwards. The frontal puncture, which is almost invariably present among the *Carenides* between the out-turned frontal groove and the clypeus on each side, is wanting in the present species. Prothorax convex, widely transverse ($4\frac{1}{2} \times 7$), with wide reflexed margin along the sides and base; truncate in front, with the anterior angles obtuse, and considerably advanced; shortly rounded at the posterior angles and sinuate behind, the base being lightly emarginate; the median line distinct. Only

the marginal punctures at the posterior angles present in my specimen. Elytra smooth, broad, ovate (10×7), with wide reflexed margin; base truncate, not narrowed; apex widely rounded; sides parallel; humeral angles distinct, with edge thickened and turned backwards; two discoidal punctures at about one-third of the length of the elytra from the apex, a row of punctures along the lateral margins, and a few punctures on the base; the suture rather lightly impressed. Anterior tibiae tridentate externally; the exterior ridge with three projections, the lowest rather distinct; the inferior ridge reaches the tarsus; a tooth projects downwards below the tarsus.

This species comes near *Carenum cupreo-marginatum*, Blackburn.

Loc.—Eucla, West Australia.

PLATYTHORAX INTERIORIS, sp.nov.

Niger, nitidus; prothorace elytrisque tenue cyaneo-marginatis; capite magno, subquadrato, supra oculos unipunctato; sulcis frontilibus antice fortiter, postice leviter divergentibus; clypeo interdentes laterales truncato; prothorace lævi, late transverso, canaliculato, lateribus parum rotundatis, valde marginatis, antice truncato, angulis anticis rotundatis, productis, posticis subrectis, multo reflexioribus, basi sinuato, breviter lobato, marginibus ad angulos anticos posticosque puncto setigero impressis; elytris convexis, prothorace parum angustioribus, basi subtruncato, humeris vix notatis, obsolete seriatim punctulatis, postice duobus punctis majoribus impressis, tibiis anticis extus tridentatis.

Long. 22 mm., lat. 8 mm.

Black, with a narrow bluish-green margin to the prothorax and elytra. Head large, subquadrate ($4 \times 5\frac{1}{2}$); the frontal sulci deep, diverging slightly towards the back, in front turning sharply out towards the anterior angles of the head; pre-ocular processes prominent; the clypeal teeth strong, the clypeus truncate between them; one supra-orbital puncture on each side. Prothorax

smooth, squarely transverse ($4\frac{1}{2} \times 8$), somewhat wider than the elytra; truncate in front, with the angles advanced, the sides a little rounded; the posterior angles square; the base sinuate, with a short wide lobe; the lateral margins rather widely reflexed, especially at the posterior angles; the disc rather flat, with a distinct median line; two lightly marked setigerous punctures on each lateral margin, one towards the anterior angle, and one at the posterior angle; in front a faint transverse impression becoming more distinct towards each anterior angle. Elytra convex ($11 \times 7\frac{3}{4}$), with the sides a little rounded, widest at about one-third of their length from the base; the humeral angles rounded, with the edge a little turned back; the base truncate; seven rows of closely placed shallow punctures on each elytron; two larger discoidal situated towards the apex; three punctures in a single row on the base of each elytron; the usual row of punctures extending along each lateral margin. The anterior tibiae tridentate externally, the exterior ridge with three projections; the inferior ridge serrate, reaching nearly to the tarsus; the apical plate without any projecting tooth.

Loc.—Tintinallogy, Wilcanuia, N.S.W. (Dr. H. A. Ellis).

This species is distinct from the other two described species of the sub-genus *Platythorax*.

CARENUM ARENARIUM, sp.nov.

Nigrum, nitidum, prothorace elytrisque violaceo-marginatis; *capite* sub-quadrato, supraoculos bipunctato, sulcis frontalibus profunde impressis, antice fortiter postice leviter divergentibus, postice fossula curvata conjunctis; *prothorace* transverso, lateribus subrotundatis, marginibus tenuiter reflexis, angulis anticis vix productis, posticis rotundatis, postice utrinque levissime emarginato, basi truncato, vix lobato, disco canaliculato, confertim leniter transversim ruguloso, marginibus utrinque tripunctatis; *elytris* prothorace paullum latoribus, basi truncato, humeris notatis, quadripunctatis, subtilissime striatis; *tibiis anticis* bidentatis.

Long. 22-26 mm., lat. 7-8 mm.

Black, nitid, prothorax and elytra with violet margin. Head large, sub-quadrate (5×6), narrowed behind the eyes; two supra-orbital punctures on each side; frontal sulci converging slightly towards the front, where they turn sharply out towards the anterior angles of the head; occiput with a distinct transverse impression which connects the sulci behind. Prothorax large, transverse (6×8), rounded behind, slightly rounded on the sides; the anterior angles hardly at all advanced, the margins narrow; the median line distinct, and crossed throughout its length by minute transverse striolæ; three marginal punctures on each side. Elytra large, rather convex ($13 \times 8\frac{1}{2}$), slightly wider than the thorax, truncate at the base, rather parallel on the sides; the surface appears quite smooth to the eye, but with a lens very faint longitudinal striæ may be discerned; the lateral margins narrow, and a little thickened at the humeral angles; two punctures near the shoulders, and two towards the apex. Anterior tibiæ bidentate.

This species is very closely allied to *C. interruptum*, Mael.; it is, however, a rather larger insect, more brightly coloured, and has the striæ of the elytra less distinct.

Loc.—Mulwala, N.S.W.

CARENUM DECORUM, sp.nov.

Nitidum, elytris violaceis viridi-marginatis, prothoracis disco nigro, lateribus violaceis; *capite* nigro, supra oculos unipunctato, sulcis frontalibus profunde impressis, antice posticeque fortiter divergentibus; *prothorace* transverso, angulis anticis obtusis leviter productis, posticis rotundatis, pone angulos posticos emarginato, lateribus basique reflexe marginatis, basi emarginato, canaliculato, marginibus ad angulos anticos posticosque punctatis; *elytris* ovatis, sub-convexis, leviter striatis, vel subsulcatis, postice bipunctatis; *tibiis anticis* bidentatis.

Long. 18 mm., lat. 6 mm.

Elytra of a rich blue colour, brighter towards the sides, the middle of the disc sometimes almost black, the margins of a pale

bluish-green; head and thorax black, the edges of the latter suffused with blue. Head subquadrate (4×5), rather narrowed behind the eyes, with one supra-orbital puncture on each side; the frontal sulci deep, diverging backwards behind the supra-orbital puncture, and in front turning out sharply towards the anterior angles of the head. Prothorax transverse (4×6), rounded on the sides and at the posterior angles; the anterior angles obtuse and slightly advanced; the sides and base with a reflexed margin which is wider on the base, base sublobate, emarginate in middle; a rather sharp emargination outside each lateral angle of the base making these angles very distinct, and giving to the base its sublobate appearance; median line distinct; a marginal puncture near each anterior and posterior angle. Elytra ovate (11×6), not very convex, truncate at the base, rounded on the sides, distinctly striate, with two discoidal punctures towards the apex; the lateral margins narrow, thickened and upturned at the humeral angles; a single row of punctures on the base, and along the lateral margins. Anterior tibiæ bidentate externally; the projections of the exterior ridge (four) feeble.

Loc.—Coonamble district, and Coonabarabran, N.S.W. Taken in sandy soil in June last.

This species comes near *C. ianthinum*, Macl., from which its flatter form, more strongly striate elytra, and the different shape of the basal part of the thorax will serve to distinguish it.

CARENUM LÆVICOLLE, sp. nov.

Nigrum, nitidum, prothorace elytrisque violaceo-marginatis; *capite* subquadrato, supra oculos haud punctigero, sulcis frontalibus antice fortiter postice leviter divergentibus; *prothorace* lævi, transverso, antice late emarginato, postice rotundato, basi levissime emarginato, fortiter reflexo-marginato, canaliculato, antice linea transversa impresso; *elytris* lævis, impunctatis, convexis, basi levissime emarginato, sutura distincte impressa, tenue marginatis; *tibiis anticis* extus bidentatis.

Long. 19 mm. lat. $6\frac{1}{2}$ mm.

Black, nitid, prothorax and elytra with violet margin. Head subquadrate ($3\frac{1}{2} \times 4\frac{1}{2}$) supra-orbital punctures wanting, frontal

sulci converging slightly in front, then turning sharply out towards the anterior angles of the head. Prothorax transverse ($3\frac{1}{2} \times 6$), semicircular, anterior angles advanced; base lightly emarginate; median line distinct, terminating in front in a transverse impression. No trace of prothoracic marginal punctures (in my single specimen). Elytra smooth, rather convex, wider than the thorax ($6\frac{1}{2} \times 9$), slightly emarginate at the base, narrowed towards the apex; suture lightly marked; margins narrow, slightly thickened, and upturned at the humeral angles; two or three fine punctures on the base near the shoulders, and along the lateral margins a row of widely placed punctures; without discoidal punctures. Anterior tibiæ bidentate.

Loc.—Johnstone River, North Queensland.

This species has very much the appearance of *Carenum levipenne* Macl., to which it is allied.

PALISCAPHUS, sub-gen.nov.

Caput supra oculos bipunctatum; *frons* profunde bisulcata; *clypeus* ad labri latera utrinque longius dentatus, medio levissime emarginatus.

Palpi maxillares tenues, apice sub-truncati, *labiales* modice securiformes.

Labrum truncatum.

Mentum dente medio brevi valide instructum.

Antennæ breves, moniliformes, articulis 1° et 2° glabris, 3° et 4° bisetosis, septem ultimis hirsutis, 2° et 3° æqualibus, ultimo brevi, apice rotundato.

Prothorax transversus, marginibus utrinque bipunctatis.

Elytra sub-convexa, disco apicem versus bipunctato.

Tibiæ anticae extus bidentatæ; *femora antica* subtus intus tripunctata.

The short moniliform antennæ, not thicker towards the end, are the most conspicuous feature of this sub-genus. Its position will be near *Eutoma* and *Carenoscaphus*, from both of which sub-genera the more transverse thorax will readily distinguish it.

PALISCAPHUS FELIX, sp.nov.

Lævigatus, splendide cæruleus, prothorace elytrisque tenuiter viridi-marginatis; *capite* sub-quadrato, supra oculos bipunctato, sulcis frontalibus antice fortiter postice leviter divergentibus, postice fossula transversa conjunctis; *antennis* brevibus, moniliformibus; *prothorace* transverso, tenue marginato, antice truncato, angulis anticis marginatis vix productis, posticis rotundatis, marginibus ad angulos anticos posticosque punctatis; *elytris* ovalibus, sub-convexis, prothorace parum latioribus, humeris rotundatis, postice bipunctatis; *tibiis anticis* extus bidentatis.

Long. 17 mm., lat. $5\frac{1}{2}$ mm.

This beautiful species is of a bright metallic blue colour with a narrow green margin to the prothorax and elytra. Head sub-quadrato ($3 \times 4\frac{1}{2}$), narrowed behind the eyes which are prominent; the frontal sulci diverging backwards, behind connected by a transverse impression extending behind the eyes; two supra-orbital punctures, and the usual frontal punctures near the clypeus; labrum short and truncate in front; the projecting teeth of the clypeus strong, between them the clypeus lightly emarginate in the middle. Prothorax transverse ($3\frac{1}{2} \times 5$), truncate in front, with the angles rather acute, margined, and very slightly advanced; behind rounded; the sides and base with a narrow reflexed margin, rather thicker on the base; the basal portion of the prothorax defined by a curved transverse line, rather elevated between this line and the margin; the median line distinct, not reaching the anterior margin; a short rather oblique transverse line at each anterior angle, and a faint impression on each side of the base; two setigerous punctures on each margin, one near the anterior angle, the other at the place of the posterior angle. Elytra oval ($9 \times 5\frac{1}{2}$), a little wider than the prothorax, somewhat convex, the upper surface being rather flat; bipunctate towards the apex; the lateral margins narrow; the marginal channel rather deep, and closely set with punctures; the suture deeply marked; the base obliquely declivous towards each humeral angle, and

marked with irregularly placed punctures. Anterior tibiæ bidentate externally, with a projection at the base of the upper tooth; below not offering any distinctive difference from *Eutoma*.

Loc.—Tintinallogy, Darling River, N.S.W. (Dr. H. A. Ellis).

CONOPTERUM MODESTUM, sp.nov.

Nigrum, prothorace elytrisq̄ viridi-limbatis; capite magno, postice angustato, supra oculos bipunctato, sulcis frontalibus profunde impressis, antice fortiter postice late divergentibus; prothorace tenue marginato, antice truncato, angulis anticis rotundatis, obtusis vix productis, posticis rotundatis, pone angulos posticos utrinque obliquo, fortiter canaliculato, basi late sublobato truncato, marginibus lateralibus utrinque bipunctato; elytris ovatis, lateribus parallelis, disco planato, sutura fortiter impressa, subtiliter striatis, tenue marginatis, antice posticeq̄ bipunctatis.

Long. 21 mm., lat. $6\frac{1}{2}$.

Black, prothorax and elytra widely margined with green. Head large ($5 \times 5\frac{1}{2}$), narrowed behind the eyes, rather convex; the frontal sulci widely diverging behind, in front bifurcating, enclosing the frontal punctures; the lateral teeth of the clypeus acute, the space between them emarginate. Prothorax a little wider than long ($5 \times 6\frac{1}{2}$), truncate in front; the anterior angles obtuse, and very slightly advanced; the sides a little rounded; the posterior angles rounded off, behind them narrowing obliquely to the base, which is widely sublobate and truncate; the median line deeply impressed, and crossed throughout by transverse striolæ; an oblique longitudinal impression at each basal angle; the lateral margins with two punctures, one towards the anterior angle, the other at the posterior angle. Elytra oval ($7\frac{3}{4} \times 11$), the disc flat with the suture strongly impressed, towards the edges the elytra are abruptly rounded, near the suture they are faintly striate, the sides being smooth; the sides are parallel; the margins narrow, rounded off and not thickened at the shoulders; some irregularly placed punctures in

a depression on the base of each elytron, and a row of separate punctures along the lateral margins; a strong puncture at the shoulder and another near the apex of each elytron. [The anterior legs are wanting in my specimen]. The prosternum is rounded behind, and without any longitudinal excavation.

The elytra with convex rounded sides, and flat on the disc, are the most conspicuous features of this species.

Loc.—Nicol Bay, West Australia. I am indebted to Mr. C. French for my specimen.

NEOSCAPHUS, gen.nov.

Caput pone oculos angustatum, supra oculos bipunctatum; *clypeus* ad labri latera acute dentatus, medio leviter excavato; *frons* fortiter bisulcata.

Palpi maxillares securiformes; *labiales* latissime securiformes.

Labrum truncatum.

Antennæ tenues, articulo ultimo obtuso.

Mentum dente medio longius instructum.

Prosternum postice rotundatum, inter coxas longitudinaliter subexcavatum.

Prothorax longiusculus, margine utrinque bipunctato.

Elytra cylindrica, basi excavato.

Tibiæ anticæ extus bidentatæ; *femora* antica ad apicem intus haud punctigera.

I have placed this genus next *Conopterum* to which it seems more closely allied by its elongate shape and strongly securiform palpi, than to any other that I know; the head, however, is much lighter than in *Conopterum*, and the shape of the thorax is different.

NEOSCAPHUS SIMPLEX, sp.nov.

Niger, nitidus; *capite* levi, pone oculos angustato, supra oculos bipunctato, sulcis frontalibus antice fortiter postice

leviter divergentibus, occipite transverse impresso; *prothorace* latitudine vix longiore, tenue marginato, marginibus haud reflexis, antice truncato, postice late sublobato, lateribus parallelis, basi rotundato, marginato, linea transversa impresso, duobus punctis marginalibus utrinque notato, leviter canaliculato; *elytris* elongatis, convexis, antice paulo angustatis, basi valde emarginato, humeris fortiter notatis erecte marginatis, apice obtuse mucronatis, sutura valde impressa, segmentis abdominalibus et coxis posticis rugulosis impunctatisque; *tibiis anticis* extus bidentatis.

Long. 25 mm., lat. 7 mm.

Black, shining, the prothorax less nitid than the elytra. Head light, subquadrate ($3\frac{3}{4} \times 4\frac{1}{2}$), narrowed behind the eyes; two supra-orbital punctures; frontal sulci converging towards clypeus from behind the supra-orbital punctures, in front they appear to bifurcate enclosing the frontal punctures. Prothorax as long as wide ($6\frac{1}{2} \times 6\frac{1}{2}$), truncate in front, parallel on the sides, rounded off at the posterior angles towards the base, which is widely sublobate and rounded; the lateral margins narrow, not reflexed, that of the base more prominent; median line very lightly impressed; each lateral channel with two punctures. Elytra nearly twice as long as broad (13×7), cylindrical, rather wider towards the apex than at the shoulders, smooth, without discoidal punctures; suture deeply impressed; the base strongly emarginate, with the humeral angles conspicuous; the lateral margins very narrow, thicker and erect at the shoulders; a blunt projection at the apex. The legs rather light; the anterior tibiae bidentate, with both the "exterior" and "inferior" ridges weak; the apical puncture on the inner side of the anterior femora is wanting. The abdominal segments transversely wrinkled, and without the usual punctures. The posterior coxae are without any impressed punctures. This is the only case of a Carenid without posterior coxal punctures, that I have seen.

Loc.—Mulwala. N.S.W. (A single specimen in my collection).

This is a very distinct form differing in the shape of its thorax and in its elytra, (which are very cylindrical, emarginate at the

base, and obtusely mucronate at the apex) from all the forms of *Carenum* known to me.

Besides those described by me in the present paper, the following species have been added to the Carenides since the Hon. William Macleay's revision of 1887 :—

Philoscaphus Barnardi, Macl.; *Calliscapterus foveolatus*, Macl.; *C. viridiæneus*, Macl.; *Carenoscaphus viridissimus*, Macl.; *Carenum obsoletum*, Macl.; *C. rugatum* (*Calliscapterus*), Blackb.; *C. Macleayi*, (*Calliscapterus*?), Blackb.; *C. cupreomarginatum*, (*Chariscapterus*), Blackb.; *C. fugitivum*, Blackb.; *C. inconspicuum*, Blackb.; *Eutoma Adelaideæ*, Blackb.; *Epilectus fortis*, Blackb.

I append the names of the species found at Mulwala, N.S.W., which will be found of interest as a local list :—

Euryscaphus bipunctatus, Macl.

E. arenarius, Sloane.

Philoscaphus tuberculatus, Macl.

P. carinatus, Macl.

Laccopterum loculosum, Newm.

L. spencii, Westw.

Calliscapterus campestris, Macl.

Carenum scaritioides, Westw.

C. arenarium, Sloane.

C. murrumbigense, Macl.

Eutoma loddonense (?), Casteln.

Carenidium lacustre, Macl.

Neoscaphus simplex, Sloane.